

9. The wireless power transmitting device of claim 8, wherein the drive signals applied to the at least two of the wireless power transmitting coils overlapping with the wireless power receiving coil are out-of-phase drive signals.

10. The wireless power transmitting device of claim 1, wherein the control circuitry is further configured to receive information from the wireless power receiving device via the first of the wireless power transmitting coils.

11. The wireless power transmitting device of claim 10, wherein the control circuitry is further configured to reduce the ambient magnetic fields by generating drive signals for the wireless power transmitting coils based at least partly on the information received from the wireless power receiving device.

12. The wireless power transmitting device of claim 11, wherein the information received from the wireless power receiving device comprises device type information.

13. The wireless power transmitting device of claim 11, wherein the information received from the wireless power receiving device comprises device type information selected from the group consisting of: a cellular telephone device type, a wristwatch device type, and a wireless headphone charging case type.

14. The wireless power transmitting device of claim 1, further comprising:

a charging surface configured to receive first, second, and third wireless power receiving devices, wherein:  
the wireless power receiving device is one of the first, second, and third wireless power receiving devices;  
the control circuitry is configured to supply first drive signals to a first set of one or more of the wireless power transmitting coils that are magnetically coupled to the first wireless power receiving device, to supply second drive signals to a second set of one or more of the wireless power transmitting coils that are magnetically coupled to the second wireless power receiving device, and to supply third drive signals to a third set of one or more of the wireless power transmitting coils that are magnetically coupled to the third wireless power receiving device.

15. The wireless power transmitting device of claim 14, wherein the drive signals applied to the first set of wireless power transmitting coils are out of phase with the drive signals applied to the second set of wireless power transmitting coils.

16. The wireless power transmitting device of claim 15, wherein the drive signals applied to the third set of wireless power transmitting coils are in phase with the drive signals applied to the first set of wireless power transmitting coils.

17. The wireless power transmitting device of claim 1, further comprising:

a magnetic sensor configured to measure a magnetic field, wherein the control circuitry is configured to apply signals to the wireless power transmitting coils at least partly based on the measured magnetic field.

18. A wireless power transmitting device configured to transmit wireless power to a wireless power receiving device through a charging surface, comprising:

a plurality of wireless power transmitting coils; and  
control circuitry coupled to the plurality of wireless power transmitting coils that is configured to:

in response to placement of the wireless power receiving device on the charging surface in a position where a wireless power receiving coil within the wireless power receiving device is parallel with the charging surface and overlaps with first and second coils in the plurality of wireless power transmitting coils, reducing ambient magnetic fields by energizing at least a third coil in the plurality of wireless power transmitting coils that is not overlapped by the wireless power receiving coil to produce magnetic fields that at least partially cancel magnetic fields produced by the first and second coils while transmitting the wireless power.

19. The wireless power transmitting device of claim 18, further comprising:

supplemental coils, wherein the control circuitry is further configured to energize the supplemental coils to produce additional magnetic fields that at least partially cancel the magnetic fields produced by the first and second coils while transmitting the wireless power.

20. The wireless power transmitting device of claim 18, wherein the control circuitry is configured to:

receive device identifier information from the wireless power receiving device;

in response to receiving a cellular telephone device type, reduce the ambient magnetic fields by applying in-phase drive signals to the first and second coils; and  
in response to receiving a wristwatch device type, reduce the ambient magnetic fields by applying out-of-phase drive signals to the first and second coils.

21. A wireless power transmitting device, comprising:  
wireless power transmitting coils; and

a charging surface configured to receive first, second, and third wireless power receiving devices; and  
control circuitry coupled to the wireless power transmitting coils that is configured to reduce ambient magnetic fields by:

supplying first drive signals to a first set of one or more of the wireless power transmitting coils that are magnetically coupled to the first wireless power receiving device;

supplying second drive signals, out-of-phase with respect to the first drive signals, to a second set of one or more of the wireless power transmitting coils that are magnetically coupled to the second wireless power receiving device, wherein the second wireless power receiving device is placed between the first and third wireless power receiving devices on the charging surface; and

supplying third drive signals, in-phase with respect to the first drive signals, to a third set of one or more of the wireless power transmitting coils that are magnetically coupled to the third wireless power receiving device.

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